

Notice of Allowability

Application No.

09/605,917

Examiner

Jeffrey C. Pwu

Applicant(s)

AVIANI ET AL.

Art Unit

2143

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.


1. ☒ This communication is responsive to 6/27/05 Request for reconsideration and 8/15/05 Interview.
2. ☒ The allowed claim(s) is/are 58-75, 77-81, 83-87 and 89-92.
3. ☒ The drawings filed on 28 June 2000 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
 - * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____


JEFFREY PWU
PRIMARY EXAMINER

Allowable Subject Matter

1. Claims 58-75, 77-81, 83-87, and 89-92 are allowed.

EXAMINER'S AMENDMENT

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mary Ramos Olynick Reg. 42,963 on August 15 2005.

3. Claims has been amendment as follow:

58. (currently amended) A method of facilitating redirection of traffic between a server and a client to between the client and a selected one from a plurality of replicas, the method comprising:

receiving a packet from a client, the packet having a destination identifier associated with a server;

when the packet is a start packet, at the client side, adding a tag to the start packet to indicate that the start packet ~~should~~ is to be forwarded by a device other than a client side device to a plurality of replicas that each duplicates the data content of the server, wherein the tag is an option byte having one of two states that indicate whether redirection is permissible or impermissible;

storing the destination identifier of the start packet;

after storing the destination identifier of the start packet and tagging the start packet, sending the start packet to the server;

~~when~~ for a first acknowledgement packet associated with the start packet that is received first ~~with respect to any other acknowledgement packets~~, storing and associating a source identifier of the first acknowledgement packet with the stored destination identifier of the start packet;

after storing and associating the source identifier of the first acknowledgement packet, sending the first acknowledgement packet to the client;

prior to storing and associating the source identifier of the first acknowledgement packet, cracking the first acknowledgement packet to obtain the source identifier when the first acknowledgement packet has been encapsulated;

when cracked, encapsulating the cracked acknowledgement packet with the destination identifier stored for the associated start packet, wherein the encapsulated first acknowledgement packet is sent to the client; and

when a second acknowledgement packet associated with the start packet is received after the first acknowledgement packet, inhibiting sending of the second acknowledgement to the client.

59. (previously presented) A method as recited in claim 58, further comprising:

when a subsequent packet associated with the start packet is received that is not a start packet or an acknowledgement packet, replacing a destination identifier of the subsequent packet with the source identifier stored for the

acknowledgement packet when the subsequent packet originates from the client;
and

forwarding the altered subsequent packet to its destination.

60. (previously presented) A method as recited in claim 59, wherein the subsequent packet is only modified when the destination identifier of the subsequent packet equals the destination identifier stored for the associated start packet.

61. (previously presented) A method as recited in claim 58, wherein the start packet is only tagged when the start packet is associated with web data, and the method further comprising sending the start packet to the server without the tag when the start packet is not associated with web data.

62. (previously presented) A method as recited in claim 61, wherein the start packet is associated with web data when the start packet has a destination port utilized for accessing web data.

63. (currently amended) A computer system operable to facilitate redirection of traffic between a server and a client to between the client and a selected one from a plurality of replicas, the computer system comprising:

a memory; and

a processor coupled to the memory,

wherein at least one of the memory and the processor are adapted to

provide:

receiving a packet from a client, the packet having a destination identifier associated with a server;

when the packet is a start packet, at the client side, adding a tag to the start packet to indicate that the start packet ~~should~~ is to be forwarded by a device other than a client side device to a plurality of replicas that each duplicates the data content of the server, wherein the tag is an option byte having one of two states that indicate whether redirection is permissible or impermissible;

storing the destination identifier of the start packet;

after storing the destination identifier of the start packet and tagging the start packet, sending the start packet to the server;

~~when~~ for a first acknowledgement packet associated with the start packet that is received first ~~with respect to any other acknowledgement packets~~, storing and associating a source identifier of the first acknowledgement packet with the stored destination identifier of the start packet;

after storing and associating the source identifier of the first acknowledgement packet, sending the first acknowledgement packet to the client;

prior to storing and associating the source identifier of the first acknowledgement packet, cracking the first acknowledgement packet to obtain the source identifier when the first acknowledgement packet has been encapsulated;

when cracked, encapsulating the cracked acknowledgement packet with the destination identifier stored for the associated start packet, wherein the encapsulated first acknowledgement packet is sent to the client; and

when a second acknowledgement packet associated with the start packet is received after the first acknowledgement packet, inhibiting sending of the second acknowledgement to the client.

64. (previously presented) A computer system as recited in claim 63, wherein at least one of the memory and the processor are further adapted to provide:

when a subsequent packet associated with the start packet is received that is not a start packet or an acknowledgement packet, replacing a destination identifier of the subsequent packet with the source identifier stored for the acknowledgement packet when the subsequent packet originates from the client; and

forwarding the altered subsequent packet to its destination.

65. (previously presented) A computer system as recited in claim 63, wherein the subsequent packet is only modified when the destination identifier of the subsequent packet equals the destination identifier stored for the associated start packet.

66. (previously presented) A computer system as recited in claim 63, wherein the start packet is only tagged when the start packet is associated with web data, and the method further comprising sending the start packet to the server without the tag when the start packet is not associated with web data.

67. (previously presented) A computer system as recited in claim 66, wherein the start packet is associated with web data when the start packet has a destination port utilized for accessing web data.

68. (currently amended) A computer program product for facilitating redirection of traffic between a server and a client to between the client and a selected one from a plurality of replicas, the computer program product comprising:

at least one computer readable medium;

computer program instructions stored within the at least one computer readable product configured for:

receiving a packet from a client, the packet having a destination identifier associated with a server;

when the packet is a start packet, at the client side, adding a tag to the start packet to indicate that the start packet ~~should~~ is to be forwarded by a device other than a client side device to a plurality of replicas that each duplicates the data content of the server, wherein the tag is an option byte having one of two states that indicate whether redirection is permissible or impermissible;

storing the destination identifier of the start packet;

after storing the destination identifier of the start packet and tagging the start packet, sending the start packet to the server;

~~when~~ for a first acknowledgement packet associated with the start packet that is received first ~~with respect to any other acknowledgement packets~~, storing and associating a source identifier of the first acknowledgement packet with the stored destination identifier of the start packet;

after storing and associating the source identifier of the first acknowledgement packet, sending the first acknowledgement packet to the client;

prior to storing and associating the source identifier of the first acknowledgement packet, cracking the first acknowledgement packet to obtain the source identifier when the first acknowledgement packet has been encapsulated;

when cracked, encapsulating the cracked acknowledgement packet with the destination identifier stored for the associated start packet, wherein the encapsulated first acknowledgement packet is sent to the client; and

when a second acknowledgement packet associated with the start packet is received after the first acknowledgement packet, inhibiting sending of the second acknowledgement to the client.

69. (previously presented) A computer program product as recited in claim 68, the at least one computer readable product further configured for:

when a subsequent packet associated with the start packet is received that is not a start packet or an acknowledgement packet, replacing a destination identifier of the subsequent packet with the source identifier stored for the acknowledgement packet when the subsequent packet originates from the client; and

forwarding the altered subsequent packet to its destination.

70. (previously presented) A computer program product as recited in claim 69, wherein the subsequent packet is only modified when the destination identifier of the packet equals the destination identifier of the start packet.

71. (previously presented) A computer program product as recited in claim 68, wherein the start packet is only tagged when the start packet is associated with web data, and the method further comprising sending the start packet to the server without the tag when the start packet is not associated with web data.

72. (previously presented) A computer program product as recited in claim 71, wherein the start packet is associated with web data when the start packet has a destination port utilized for accessing web data.

73. (currently amended) A method of facilitating redirection of traffic between a server and a client to between the client and a nearest replica selected from a plurality of replicas, the method comprising:

at the client side, receiving a packet that is traveling between a client and a server or between the client and a replica;

when the received packet is a start packet that is traveling from the client to the server, at the client side, adding a tag to the start packet to indicate that the start packet ~~should~~ is to be forwarded by a device other than a client side device to a plurality of replicas that each duplicates the data content of the server, wherein the tag is an option byte having one of two states that indicate whether redirection is permissible or impermissible;

~~when~~ for the received packet that is an acknowledgement packet that is received first and spoofs the server, obtaining a source identifier of the replica

from the acknowledgement when the acknowledgement originates from the replica and then sending the acknowledgement packet to the client;

~~when~~ for the received packet that is an acknowledgement packet that is not received first and spoofs the server, inhibiting sending of the second acknowledgement to the client; and

when the received packet is a subsequent packet received after the start packet and the acknowledgement packet, altering the subsequent packet so that it goes to the replica when the subsequent packet originates from the client, wherein the alteration is based on the obtained source identifier from the acknowledgement packet.

74. (previously presented) A method as recited in claim 73, wherein the source identifier of the replica is obtained from the acknowledgement packet by cracking the acknowledgement packet when it is encapsulated.

75. (previously presented) A method as recited in claim 74, further comprising re-encapsulating the cracked acknowledgement packet prior to sending it to the client.

76. (cancelled)

77. (previously presented) A method as recited in claim 73, wherein the subsequent packet is altered by replacing the subsequent packet's destination identifier with a destination identifier of the start packet.

78. (previously presented) A method as recited in claim 73, wherein the subsequent packet is altered by encapsulating the subsequent packet with a destination identifier of the start packet.

79. (currently amended) A computer system operable to facilitate redirection of traffic between a server and a client to between the client and a nearest replica selected from a plurality of replicas, the computer system comprising:

a memory; and

a processor coupled to the memory,

wherein at least one of the memory and the processor are adapted to provide:

at the client side, receiving a packet that is traveling between a client and a server or between the client and a replica;

when the received packet is a start packet that is traveling from the client to the server, at the client side, adding a tag to the start packet to indicate that the start packet ~~should~~ is to be forwarded by a device other than a client side device to a plurality of replicas that each duplicates the data content of the server, wherein the tag is an option byte having one of two states that indicate whether redirection is permissible or impermissible;

~~when~~ for the received packet that is an acknowledgement packet that is received first and spoofs the server, obtaining a source identifier of the replica from the acknowledgement when the acknowledgement originates from the replica and then sending the acknowledgement packet to the client;

~~when~~ for the received packet that is an acknowledgement packet that is not received first and spoofs the server, inhibiting sending of the second acknowledgement to the client; and

when the received packet is a subsequent packet received after the start packet and the acknowledgement packet, altering the subsequent packet so that it goes to the replica when the subsequent packet originates from the client, wherein the alteration is based on the obtained source identifier from the acknowledgement packet.

80. (previously presented) A computer system as recited in claim 79, wherein the source identifier of the replica is obtained from the acknowledgement packet by cracking the acknowledgement packet when it is encapsulated.

81. (previously presented) A computer system as recited in claim 80, further comprising re-encapsulating the cracked acknowledgement packet prior to sending it to the client.

82. (cancelled)

83. (previously presented) A computer system as recited in claim 79, wherein the subsequent packet is altered by replacing the subsequent packet's destination identifier with a destination identifier of the start packet.

84. (previously presented) A computer system as recited in claim 79, wherein the subsequent packet is altered by encapsulating the subsequent packet with a destination identifier of the start packet.

85. (currently amended) A computer program product for facilitating redirection of traffic between a server and a client to between a server and a client to between the client and a nearest replica selected from a plurality of replicas, the computer program product comprising:

at least one computer readable medium;

computer program instructions stored within the at least one computer readable product configured for:

at the client side, receiving a packet that is traveling between a client and a server or between the client and a replica;

when the received packet is a start packet that is traveling from the client to the server, at the client side, adding a tag to the start packet to indicate that the start packet ~~should~~ is to be forwarded by a device other than a client side device to a plurality of replicas that each duplicates the data content of the server, wherein the tag is an option byte having one of two states that indicate whether redirection is permissible or impermissible;

~~when~~ for the received packet that is an acknowledgement packet that is received first and spoofs the server, obtaining a source identifier of the replica from the acknowledgement when the acknowledgement originates from the replica and then sending the acknowledgement packet to the client;

~~when~~ for the received packet that is an acknowledgement packet that is not received first and spoofs the server, inhibiting sending of the second acknowledgement to the client; and

when the received packet is a subsequent packet received after the start packet and the acknowledgement packet, altering the subsequent packet so that it goes to the replica when the subsequent packet originates from the client, wherein the alteration is based on the obtained source identifier from the acknowledgement packet.

86. (previously presented) A computer program product as recited in claim 85, wherein the source identifier of the replica is obtained from the acknowledgement packet by cracking the acknowledgement packet when it is encapsulated.

87. (previously presented) A computer program product as recited in claim 86, the at least one computer readable product being further configured for re-encapsulating the cracked acknowledgement packet prior to sending it to the client.

88. (cancelled)

89. (previously presented) A computer program product as recited in claim 85, wherein the subsequent packet is altered by replacing the subsequent packet's destination identifier with a destination identifier of the start packet.

90. (previously presented) A computer program product as recited in claim 85, wherein the subsequent packet is altered by encapsulating the subsequent packet with a destination identifier of the start packet.

91. (currently amended) An apparatus product for facilitating redirection of traffic between a server and a client to between the client and a selected one from a plurality of replicas, the apparatus comprising:

means for receiving a packet from a client, the packet having a destination identifier associated with a server;

means for when the packet is a start packet, at the client side, adding a tag to the start packet to indicate that the start packet ~~should~~ is to be forwarded by a device other than a client side device to a plurality of replicas that each duplicates the data content of the server, wherein the tag is an option byte having one of two states that indicate whether redirection is permissible or impermissible;

means for storing the destination identifier of the start packet;

means for after storing the destination identifier of the start packet and tagging the start packet, sending the start packet to the server;

means for, ~~when~~ for a first acknowledgement packet associated with the start packet that is received first ~~with respect to any other acknowledgement packets~~, storing and associating a source identifier of the first acknowledgement packet with the stored destination identifier of the start packet;

means for after storing and associating the source identifier of the first acknowledgement packet, sending the first acknowledgement packet to the client;

means for prior to storing and associating the source identifier of the first acknowledgement packet, cracking the first acknowledgement packet to obtain the source identifier when the first acknowledgement packet has been encapsulated;

means for when cracked, encapsulating the cracked acknowledgement packet with a source address associated with the packet, wherein the encapsulated first acknowledgement packet is sent to the client; and

means for when a second acknowledgement packet associated with the start packet is received after the first acknowledgement packet, inhibiting sending of the second acknowledgement to the client.

92. (currently amended) An apparatus product for facilitating redirection of traffic between a server and a client to between the client and a nearest replica selected from a plurality of replicas, the apparatus comprising:

means for at the client side, receiving a packet that is traveling between a client and a server or between the client and a replica;

means for when the received packet is a start packet that is traveling from the client to the server, at the client side, adding a tag to the start packet to indicate that the start packet ~~should~~ is to be forwarded by a device other than a client side device to a plurality of replicas that each duplicates the data content of the server, wherein the tag is an option byte having one of two states that indicate whether redirection is permissible or impermissible;

means for, for ~~when~~ the received packet that is an acknowledgement packet that is received first and spoofs the server, obtaining a source identifier of

the replica from the acknowledgement when the acknowledgement originates from the replica and then sending the acknowledgement packet to the client;

means for, for ~~when~~ the received packet that is an acknowledgement packet that is not received first and spoofs the server, inhibiting sending of the second acknowledgement to the client; and

means for when the received packet is a subsequent packet received after the start packet and the acknowledgement packet, altering the subsequent packet so that it goes to the replica when the subsequent packet originates from the client, wherein the alteration is based on the obtained source identifier from the acknowledgement packet.

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey Pwu whose telephone number is 571-272-6798.

The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



8/15/05

JEFFREY PWU
PRIMARY EXAMINER